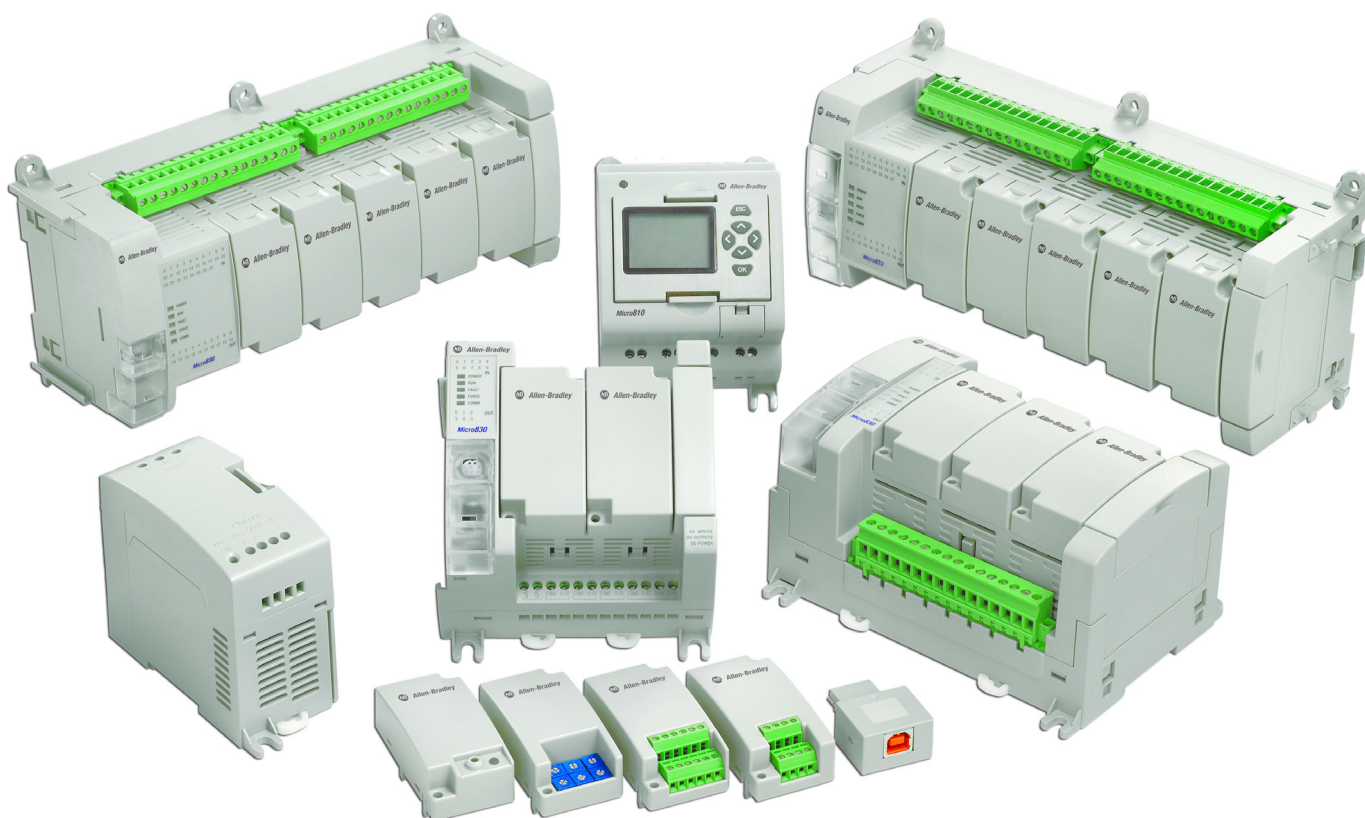


Micro800 Programmable Controllers, Plug-In Modules, and Accessories



Bulletin 2080
Selection Guide



LISTEN.
THINK.
SOLVE.

Important User Information

Solid state equipment has operational characteristics differing from those of electromechanical equipment. Safety Guidelines for the Application, Installation and Maintenance of Solid State Controls (publication [SGI-1.1](#) available from your local Rockwell Automation sales office or online at <http://rockwellautomation.com/literature>) describes some important differences between solid state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.





In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

Reproduction of the contents of this manual, in whole or in part, without written permission of Rockwell Automation, Inc., is prohibited.

Throughout this manual, when necessary, we use notes to make you aware of safety considerations.

WARNING 	Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.
ATTENTION 	Identifies information about practices or circumstances that can lead to: personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence.
SHOCK HAZARD 	Labels may be on or inside the equipment, such as a drive or motor, to alert people that dangerous voltage may be present.
BURN HAZARD 	Labels may be on or inside the equipment, such as a drive or motor, to alert people that surfaces may reach dangerous temperatures.

Allen-Bradley, Rockwell Automation, Micro800, Connected Components Workbench, and TechConnect are trademarks of Rockwell Automation, Inc.

Trademarks not belonging to Rockwell Automation are property of their respective companies.

Select a Micro800 Controller



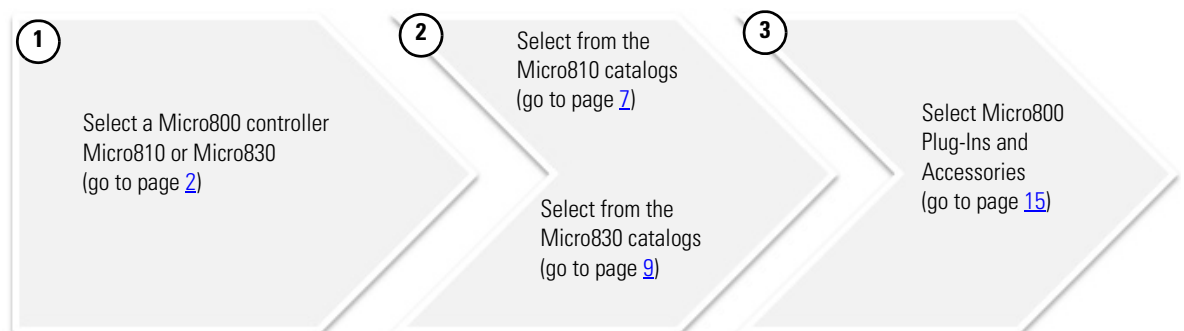
Micro800™ controllers are designed for low-cost, standalone machines. These economical small-size PLCs are available in different form factors based on the number of I/O points embedded in the base, with a range of features intended to address different requirements. The Micro800 family shares programming environment, accessories and plug-ins that allow machine builders to personalize the controller for specific capabilities.

Micro810 controllers function as a smart relay with high current relay outputs, but with the programming capabilities of a micro PLC. The Micro810 controllers come in a 12-point form factor.

Micro830 controllers are designed for standalone machine control applications. It has flexible communications and I/O capabilities with up to five plug-ins. It comes as a 10-, 16-, 24-, or 48-point form factor.

This selection guide aims to help you identify the right controller, plug-ins, and accessories based on your requirements.

Choose a Micro800 Controller



Micro800 Controllers Comparison

Features

Attribute	Micro810	Micro830			
	12-point	10-point	16-point	24-point	48-point
Communications ports, embedded	USB 2.0 (with USB adapter)	USB 2.0 (non-isolated) RS232/RS485 non-isolated combo serial			
Base programming port	Embedded USB 2.0 (non-isolated), Type A-B Male-Male. Micro810 12pt requires adapter plug.	Embedded USB 2.0 (non-isolated) Any standard USB printer cable will work			
Base digital I/O points (see Number and Types of Inputs/Outputs on page 4)	12	10	16	24	48
Base analog I/O channels	Four 24V DC digital inputs can be configured as 0...10V analog inputs (DC input models only)	via Plug-In Modules			
Base number of plug-in modules	0	2	2	3	5
Maximum digital I/O ⁽¹⁾	12	26	32	48	88
Types of accessories or plug-ins supported	<ul style="list-style-type: none">• LCD display with backup memory module• USB adapter	All plug-in modules (Isolated serial port, 2/4-channel analog, RTD and Thermocouple, digital I/O, trimpot, backup memory module with RTC)			
Power supply	Embedded 120/240V AC and 12/24V DC options	Base unit has embedded 24V DC power supply, optional external 120/240V AC power supply available			
Basic instruction speed	2.5 μs per basic instruction	0.30 μs per basic instruction			
Software	Connected Components Workbench (CCW)				

(1) For Micro830 controllers, the number of maximum digital I/O assumes 8-point digital I/O plug-ins (for example, 2080-IQ40B4) are used on all available plug-in slots.

Micro800 Controller Programming Comparison (with Connected Components Workbench)

Attribute	Micro810, 12-point	Micro830, 10/16-point	Micro830, 24-point	Micro830, 48 -point
Program steps ⁽¹⁾	2 K	4 K	10 K	10 K
Data bytes	4 KB	8 KB	20 KB	20 KB
IEC 61131-3 languages	Ladder diagram, function block diagram, structured text			
User defined function blocks	Yes			
Floating point	32-bit & 64-bit			
PID Loop Control	Yes	Yes		
Embedded serial port protocols	None	Modbus Master/Slave, ASCII/Binary		

(1) Estimated Program and Data size are "typical" – program steps and variables are created dynamically. 1 Program Step = 12 data bytes.

Micro800 Communication Options

Controller	USB programming port	Embedded Serial Port, Serial Port Plug-In		
		CIP Serial	Modbus RTU	ASCII/Binary
Micro810	Yes (with adapter)	No		
Micro830	Yes	No	Master/Slave	Yes

Micro800 Power Requirements

Controller/Module	Power Requirement
Micro810 12-point (with or without LCD)	3 W (5V A for AC module)
Micro830 (without plug-in)	
10/16-point	3.6 W
24-point	5.28 W
48-point	10.56 W
Plug-in modules, each	1.44 W

Micro800 Controller Analog I/O comparison

Analog Accuracy Level Required	Component Recommended
Low	Micro810 – 4-channel embedded analog - 10-bit non-isolated 0...10V inputs - 2% accuracy with user calibration - limited filtering - each channel shared with digital input
Medium	Micro830 (with plug-ins) - 12-bit non-isolated 0...10V, 0...20 mA - 1% Accuracy, inputs and outputs - 14-bit non-isolated RTD/TC (1 °C accuracy) - 200 ms/ch, 50/60 Hz filtering

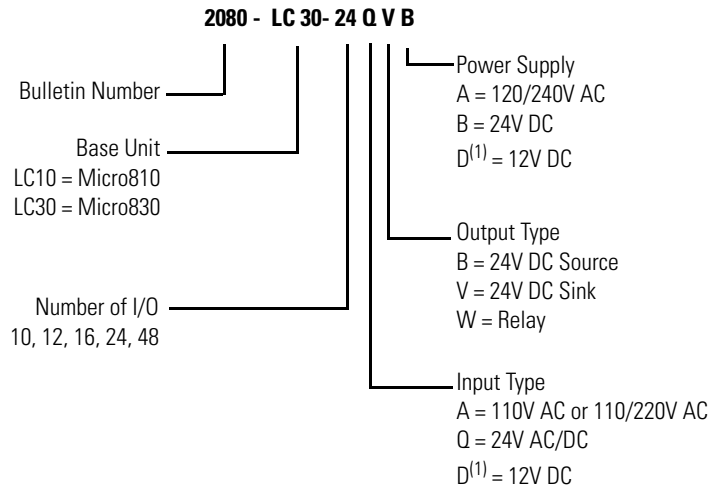
Micro810 and Micro830 Catalogs – Number and Types of Inputs/Outputs

Number and Types of Inputs/Outputs⁽¹⁾

Controller Family	Catalogs	Inputs				Outputs			Analog In 0...10V (shared with DC In)
		110V AC	120 / 240V AC	24V DC/ V AC	12V DC	Relay	24V DC Source	24V DC Sink	
Micro810	2080-LC10-12QWB			8		4			4
	2080-LC10-12AWA		8			4			4
	2080-LC10-12QBB			8			4		
	2080-LC10-12DWD				8	4			4
Micro830	2080-LC30-10QWB			6		4			
	2080-LC30-10QVB			6				4	
	2080-LC30-16AWB	10				6			
	2080-LC30-16QWB			10		6			
	2080-LC30-16QVB			10				6	
	2080-LC30-24QWB			14		10			
	2080-LC30-24QVB			14				10	
	2080-LC30-24QBB			14		10			
	2080-LC30-48AWB	28				20			
	2080-LC30-48QWB			28		20			
	2080-LC30-48QVB			28				20	
	2080-LC30-48QBB			28				20	

(1) All power is 24V DC.

Micro800 Catalog Number Details



⁽¹⁾ Available for Micro810 only.

Connected Components Workbench Software

Connected Components Workbench™ (CCW) is the programming and configuration software environment for the Micro800 controllers and our Connected Components products offering. It simplifies setup and usage, enabling applications ranging from simple Smart Relay up to Standalone Machine control.

Visit the website for the most up-to-date product information, downloads and tools:

<http://ab.rockwellautomation.com/Programmable-Controllers/Connected-Components-Workbench-Software>.

Attribute	Basic
Delivery	Download for FREE from the Connected Components Workbench web page at http://ab.rockwellautomation.com/Programmable-Controllers/Connected-Components-Workbench-Software .
Packaging options	Available on DVD, orderable from Connected Components Workbench web page at http://ab.rockwellautomation.com/Programmable-Controllers/Connected-Components-Workbench-Software .
Features	<ul style="list-style-type: none"> • LD, FBD and ST editors • creatable user-defined function blocks • No activation needed • Optional registration during installation (for product updates and notices)

Notes:

Select a Micro810 Controller



As the smallest of the Micro800 family, the Micro810 controller is available in a 12-point version, with 8A outputs that eliminate the need for external relays. The Micro810 features embedded smart relay function blocks that can be configured from a 1.5" LCD and keypad. The function blocks include Delay OFF/ON Timer, Time of Day, Time of Week and Time of Year for applications requiring a programmable timer and lighting control. Programming can also be done through a program download via USB programming port, using Connected Components Workbench Software.

To help you select a Micro810 controller, consult the specifications for each catalog in the next section.

Number and Types of Inputs/Outputs

Catalog Number	Power	Inputs			Outputs		Analog In 0...10V (shared with DC In)	
		120V AC	240V AC	12...24V DC /V AC	Relay	24 V DC SRC		
2080-LC10-12QWB	24V DC			8	4		4	
2080-LC10-12AWA	120...240V AC	8			4			
2080-LC10-12QBB	12...24V DC			8		4	4	
2080-LC10-12DWD	12V DC			8	4		4	

Specifications⁽¹⁾

Attribute	2080-LC10-12AWA	2080-LC10-12QWB	2080-LC10-12DWD	2080-LC10-12QBB
Number of I/O	8 Input (4 digital, 4 analog/digital, configurable) 4 Output			
Dimensions HxWxD	91 x 75 x 59 mm (3.58 x 2.95 x 2.32 in.)			
Supply voltage range	85...263V DC	20.4...26.4V DC	10.8V...13.2V DC	11.4V..26.4V DC
Supply frequency range (AC supply)	47...63 Hz	N.A.		
Voltage range	100...240V AC, 50/60 Hz	24V DC Class 2	12V DC Class 2	12/24V DC Class 2
Power consumption	5V A	3 W		
I/O rating	Input: 120...240V AC	Input: 24V DC, 8 mA	Input: 12V DC, 8 mA	Input: 24V DC, 8 mA
	Output: Relay 00 & 01: 8 A @ 240V AC, B300, R300, General Use Relay 02 & 03: 4 A @ 240V AC, C300, R150, General Use			Output: 24V DC 1A, 25 °C, 24V DC 0.5A 55°C
Operating temperature	0...55 °C (32...131 °F)			
Shipping weight, approx.	0.203 kg (0.448 lb)			
Wire size	0.32...2.1 mm² (22...14 AWG) solid copper wire or 0.32...1.3 mm² (22...16 AWG) stranded copper wire rated @ 90 °C (194 °F) insulation max.			
Wiring category	2 – on signal ports 2 – on power ports			
Wiring torque	1.085 Nm (8 lb-in.)			
Wire type	use Copper Conductors only			
Fuse, type	Rated 250V 3.15 A-RADIAL			
Enclosure type rating	Meets IP20			
North American temp code	T5			
Insulation stripping length	7 mm (0.28 in.)			
Isolation voltage	250V (continuous), Reinforced Insulation Type, I/O to Aux and Network, Inputs to Outputs. Type tested for 60 s 3250V DC, I/O to Aux and Network, Inputs to Outputs	250V (continuous), Reinforced Insulation Type, I/O to Aux and Network, Inputs to Outputs Type tested for 60 s at 720V DC, Inputs to Aux and Network, 3250V DC Outputs to Aux and Network, Inputs to Outputs		50V (continuous), Reinforced Insulation Type, I/O to Aux and Network, Inputs to Outputs Type tested for 60 s at 720V DC, I/O to Aux and Network, Inputs to Outputs
AC input filter setting	16 ms for all embedded inputs (In CCW, go to the Embedded I/O configuration window to re-configure the filter setting for each input group			

(1) See the Micro810 User Manual, publication [2080-UM001](#), for more Micro810 controller specifications.

Select a Micro830 Controller



The Micro830 controller allows integration of as many as five plug-in modules. The plug-in modules enable machine builders to personalize the controllers to increase functionality. It also offers removable terminal blocks (most models) and simplified communication via serial port.

The controllers include:

- up to six High-Speed Counter inputs (HSC)
- 100 kHz speed HSC available on 24V DC models
- High speed input interrupts
- Modbus RTU protocol (serial port)
- Embedded USB programming and serial port (RS232/485)
- Plug-in slots to customize according to needs

To help you select a Micro830 controller, check out the specifications for each catalog in the next section.

Inputs and Outputs

Micro830 Controllers – Number and Type of Inputs/Outputs ⁽¹⁾

Catalog Number	Inputs		Outputs		
	110V AC	24V DC/V AC	Relay	24V Sink	24V Source
2080-LC30-10QWB		6	4		
2080-LC30-10QVB		6		4	
2080-LC30-16AWB	10		6		
2080-LC30-16QWB		10	6		
2080-LC30-16QVB		10		6	
2080-LC30-24QBB		14			10
2080-LC30-24QVB		14		10	
2080-LC30-24QWB		14	10		
2080-LC30-48AWB	28		20		
2080-LC30-48QBB		28			20
2080-LC30-48QVB		28		20	
2080-LC30-48QWB		28	20		

(1) All power is 24V DC.

Micro830 Controllers General Features

Attribute	10-point 2080-LC30-10QWB 2080-LC30-10QVB	16-point 2080-LC30-16AWB 2080-LC30-16QWB 2080-LC30-16QVB	24-point 2080-LC30-24QWB 2080-LC30-24QVB 2080-LC30-24QBB	48-point 2080-LC30-48AWB 2080-LC30-48QWB 2080-LC30-48QVB 2080-LC30-48QBB
Number of I/O	10 (6 inputs, 4 outputs)	16 (10 inputs, 6 outputs)	24 (14 inputs, 10 outputs)	48 (28 inputs, 20 outputs)
Dimensions HxWxD	90 x 100 x 80 mm (3.54 x 3.94 x 3.15 in.)	90 x 100 x 80 mm (3.54 x 3.94 x 3.15 in.)	90 x 150 x 80 mm (3.54 x 5.91 x 3.15 in.)	90 x 230 x 80 mm (3.54 x 9.06 x 3.15 in.)
Shipping weight, approx.	0.302 kg (0.666 lb)	0.302 kg (0.666 lb)	0.423 kg (0.933 lb)	0.725 kg (1.60 lb)
Operating temperature	-20...65 °C (-4...149 °F)			
Wire size	0.14...2.5 mm ² (26...14 AWG) solid copper wire or 0.14...1.5 mm ² (26...16 AWG) stranded copper wire rated @ 90 °C (194 °F) insulation max		0.2...2.5 mm ² (24...14 AWG) solid copper wire or 0.2...2.5 mm ² (24...14 AWG) stranded copper wire rated @ 90 °C (194 °F) insulation max	
Wiring category ⁽¹⁾	2 – on signal ports; 2 – on power ports			
Wire type	Use copper conductors only			
Terminal screw torque	0.6 Nm (4.4 lb-in.) max (using a 2.5 mm (0.10 in.) flat-blade screwdriver)			
Power consumption	3.6 W (without plug-ins)		5.28 W	10.56 W
Power supply voltage range	20.4...26.4V DC Class 2			
Insulation stripping length	7 mm (0.28 in.)			
Enclosure type rating	Meets IP20			
North American temp code	T4			

(1) Use this Conductor Category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, [publication 1770-4.1](#).

Micro830 Controllers 10- and 16-Point Controllers



General Specifications – 10-point controllers

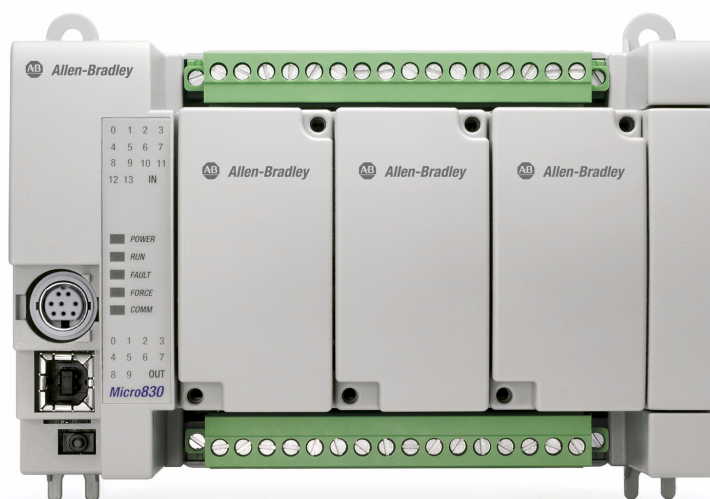
Attribute	2080-LC30-10QWB	2080-LC30-10QVB
Input circuit type	12/24V sink/source (standard) 24V sink/source (high-speed)	
Output circuit type	Relay	24V DC sink transistor (standard and high-speed)
Event input interrupt support	Yes	
I/O rating	Input 24V DC, 8.8 mA Output 2 A, 240V AC, general use	Input 24V DC, 8.8 mA Output 2 A, 24V DC, 1 A per point (Surrounding air temperature 30 °C) 24V DC, 0.3 A per point (Surrounding air temperature 65 °C)
Isolation voltage	250V (continuous), Reinforced Insulation Type, Outputs to Aux and Network, Inputs to Outputs Type tested for 60 s @ 720V DC, Inputs to Aux and Network, 3250V DC Outputs to Aux and Network, Inputs to Outputs	50V (continuous), Reinforced Insulation Type, I/O to Aux and Network, Inputs to Outputs Type tested for 60 s @ 720V DC, I/O to Aux and Network, Inputs to Outputs
Pilot duty rating	C300, R150	N.A.

General Specifications – 16-point controllers

Attribute	2080-LC30-16AWB	2080-LC30-16QWB	2080-LC30-16QVB
Input circuit type	120V AC	12/24V sink/source (standard) 24V sink/source (high-speed)	
Output circuit type	Relay		12/24V DC sink transistor (standard and high-speed)
Event input interrupt support	Yes		

General Specifications – 16-point controllers

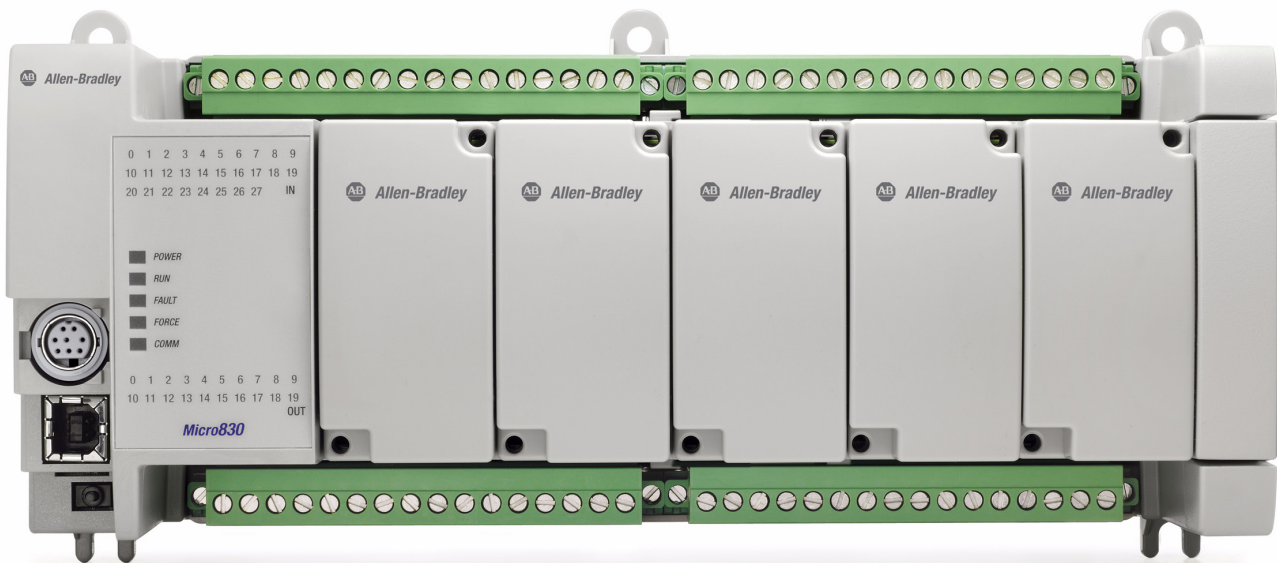
Attribute	2080-LC30-16AWB	2080-LC30-16QWB	2080-LC30-16QVB
I/O rating	Input 120V AC, 16 mA Output 2 A, 240V AC, general use	Input 24V DC, 8.8 mA Output 2 A, 240V AC, general use	Input 24V DC, 8.8 mA Output 24V DC, 1 A per point (Surrounding air temperature 30 °C) 24 V DC, 0.3 A per point (Surrounding air temperature 65 °C)
Isolation voltage	250V (continuous), Reinforced Insulation Type, Outputs to Aux and Network, Inputs to Outputs 2080-LC30-16AWB: Type tested for 60 s @ 3250V DC I/O to Aux and Network, Inputs to Outputs 2080-LC30-16QWB: Type tested for 60 s @ 720V DC, Inputs to Aux and Network, 3250V DC Outputs to Aux and Network, Inputs to Outputs		50V (continuous), Reinforced Insulation Type, I/O to Aux and Network, Inputs to Outputs Type tested for 60s @ 720V DC, I/O to Aux and Network, Inputs to Outputs
Pilot duty rating	C300, R150		N.A.

Micro830 24-Point Controllers**General Specifications – 24-point controllers**

Attribute	2080-LC30-24QWB	2080-LC30-24QVB	2080-LC30-24QBB
Input circuit type	24V DC sink/source (standard and high-speed)		
Output circuit type	Relay	24V DC sink (standard and high-speed)	24V DC source (standard and high-speed)
Event input interrupt support	Yes		
I/O rating	Input 24V DC, 8.8 mA Output 2 A, 240 V AC, general use	Input 24V DC, 8.8 mA Output 24V DC, Class 2, 1 A per point (Surrounding air temperature 30 °C) 24V DC, Class 2, 0.3 A per point (Surrounding air temperature 65 °C)	

General Specifications – 24-point controllers

Attribute	2080-LC30-24QWB	2080-LC30-24QVB	2080-LC30-24QBB
Isolation voltage	250V (continuous), Reinforced Insulation Type, Outputs to Aux and Network, Inputs to Outputs Type tested for 60 s @ 720V DC, Inputs to Aux and Network, 3250V DC Outputs to Aux and Network, Inputs to Outputs	50V (continuous), Reinforced Insulation Type, I/O to Aux and Network, Inputs to Outputs Type tested for 60 s @ 720V DC, I/O to Aux and Network, Inputs to Outputs	
Pilot duty rating	C300, R150 (2080-LC30-24QWB only)	N.A.	

Micro830 48-Point Controllers**General Specifications – 48-point controllers**

Attribute	2080-L30-48AWB	2080-L30-48QWB	2080-L30-48QVB	2080-L30-48QBB
Input circuit type	120V AC	24V DC sink/source (standard and high-speed)		
Output circuit type	Relay		24V DC sink (standard and high-speed)	24V DC source (standard and high-speed)
Event input interrupt support	Yes, inputs 0...15 only			
I/O rating	Input 120V AC, 16 mA Output 2 A, 240V AC, general use	Input 24V DC, 8.8 mA Output 2 A, 240V AC, general use	Input 24V DC, 8.8 mA Output 24V DC, 1 A per point (Surrounding air temperature 30 °C) 24 V DC, 0.3 A per point (Surrounding air temperature 65 °C)	
Pilot duty rating	C300, R150		N.A.	

General Specifications – 48-point controllers

Attribute	2080-L30-48AWB	2080-L30-48QWB	2080-L30-48QVB	2080-L30-48QBB
Isolation voltage	250V (continuous), Reinforced Insulation Type, Outputs to Aux and Network, Inputs to Outputs Type tested for 60 s @ 3250V DC I/O to Aux and Network, Inputs to Outputs	250V (continuous), Reinforced Insulation Type, Outputs to Aux and Network, Inputs to Outputs Type tested for 60 s @ 720V DC, Inputs to Aux and Network, 3250V DC Outputs to Aux and Network, Inputs to Outputs	50V (continuous), Reinforced Insulation Type, I/O to Aux and Network, Inputs to Outputs Type tested for 60 s @ 720V DC, I/O to Aux and Network, Inputs to Outputs	

Embedded Serial Port Cables**Embedded Serial Port Cable Selection Chart**

Connectors	Length	Cat. No.		Connectors	Length	Cat. No.
8-pin Mini DIN to 8-pin Mini DIN	0.5 m (1.5 ft)	1761-CBL-AM00 ⁽¹⁾		8-pin Mini DIN to 9-pin D Shell	0.5 m (1.5 ft)	1761-CBL-AP00 ⁽¹⁾
8-pin Mini DIN to 8-pin Mini DIN	2 m (6.5 ft)	1761-CBL-HM02 ⁽¹⁾		8-pin Mini DIN to 9-pin D Shell	2 m (6.5 ft)	1761-CBL-PM02 ⁽¹⁾
				8-pin Mini DIN to 6-pin RS-485 terminal block	30 cm (11.8 in.)	1763-NC01 series A

(1) Series C or later for Class 1 Div 2 applications.

Select Micro800 Plug-in Modules and Accessories



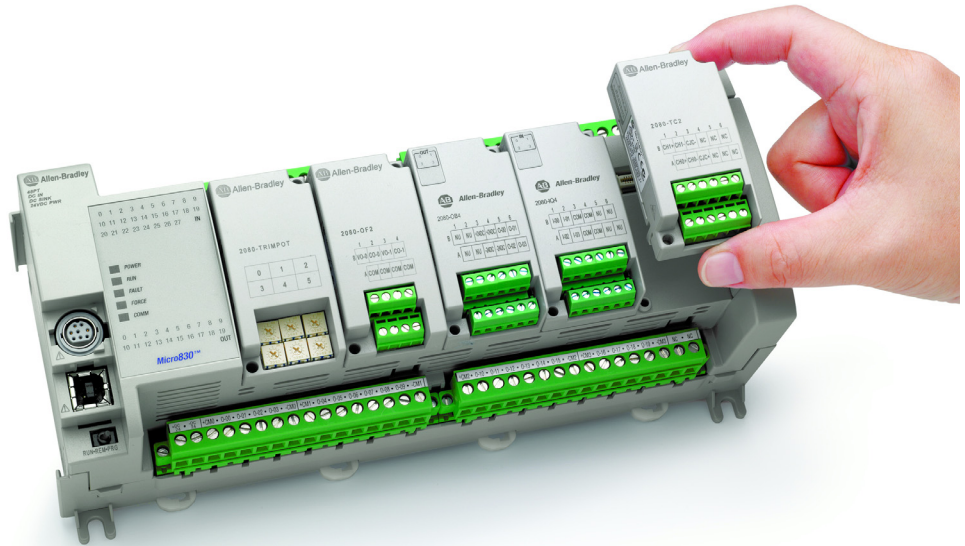
Micro800 plug-in modules extend the functionality of embedded I/O without increasing the footprint of the controller. It improves performance by adding additional processing power or capabilities and adds additional communication functionality. Micro830 controllers support plug-in modules.

Micro800 accessories consist of an LCD with keypad, a USB adapter, and an expansion power supply.

Micro800 Plug-In Modules and Accessories – Feature and Compatibility

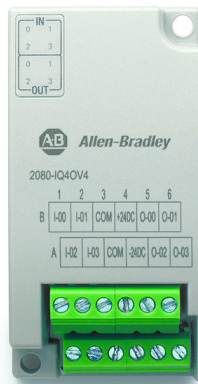
Plug-in / Accessory	Supported by Micro810	Supported by Micro830	Feature
1.5" LCD and Keypad 2080-LCD	Yes	No	<ul style="list-style-type: none"> • backup module for Micro810 controllers • configure Smart Relay Function Blocks
Micro810 USB Adapter 2080-USBADAPTER	Yes	N.A.	USB programming access
External Power Supply 2080-PS120-240VAC	Yes	Yes	expansion power supply
RS232/485 Isolated Serial Port 2080-SERIALISOL	No	Yes	<ul style="list-style-type: none"> • adds additional serial communications with Modbus RTU and ASCII protocols • isolated for increased noise immunity
Digital Input, Output, Relay, and Combination Modules 2080-IQ4, 2080-IQ4OB4, 2080-IQ4OV4, 2080-OB4, 2080-OV4, 2080-OW4I	No	Yes	<ul style="list-style-type: none"> • 4-channel inputs/outputs or combination modules • configurable as voltage and current inputs • sink or source output • 4 channel relay outputs
Non-isolated Unipolar Analog Input/Output 2080-IF2, 2080-IF4, 2080-OF2	No	Yes	<ul style="list-style-type: none"> • adds up to 20 embedded analog I/O with 12-bit resolution (with 48-point controllers) • 2 channels for 2080-IF2, 2080-OF2 • 4 channels for 2080-IF4
Non-isolated Thermocouple 2080-TC2	No	Yes	<ul style="list-style-type: none"> • for temperature control, when used with PID • 2 channels for 2080-TC2 and 2080-RTD2
Non-isolated RTD 2080-RTD2	No	Yes	
Memory Module with RTC 2080-MEMBAK-RTC	No	Yes	<ul style="list-style-type: none"> • backup project data and application code • high accuracy real-time clock
6-Channel Trim Potentiometer Analog Input 2080-TRIMPOT6	No	Yes	adds six analog presets for speed, position and temperature control

Micro800 Plug-In Modules



Digital Input, Output, Relay, and Combination Plug-Ins

Specifications (2080-IQ4, 2080-IQ4OB4, 2080-IQ4OV4, 2080-OB4, 2080-OV4)



Catalog	Input / Output	On-state voltage	On-state current
2080-IQ4	4 inputs	DC 9.0V DC, min 30V DC, max AC 10.25V AC (rms), min 30V AC (rms), max	DC 2.0 mA @ 9V DC, min 3.0 mA @ 24V DC, nom 5.0 mA, max AC 2.0 mA @ 9V AC (rms), min 5.0 mA, max
2080-IQ4OB4	4 channel inputs/source outputs combination	DC Input 9.0V DC, min 30V DC, max AC Input 10.25V AC (rms), min 30V AC (rms), max	DC Input 2.0 mA @ 9V DC, min 3.0 mA @ 24V DC, nom 5.0 mA, max AC Input 2.0 mA @ 9V AC (rms), min 5.0 mA, max
2080-IQ4OV4	4 channel inputs/sink outputs combination	Output 10V DC, min 24V DC, nom 30V DC, max	AC Input 2.0 mA @ 9V AC (rms), min 5.0 mA, max Output 5.0 mA @ 10V DC, min 0.5 A max, steady state 2 A surge, 2 s min
2080-OB4	4 source outputs	10V DC, min 24V DC, nom 30V DC, max	5.0 mA @ 10V DC, min 0.5 A max, steady state 2 A surge, 2 s min
2080-OV4	4 sink outputs		

Specifications (2080-IQ4, 2080-IQ4OB4, 2080-IQ4OV4, 2080-OB4, 2080-OV4)

Catalog	Off-state voltage	Off-state current	Power supply voltage	Mounting torque	Status indicators	North American temp code
2080-IQ4	DC 5V DC, max AC 3.5V AC (rms)	DC 1.5 mA, max	10.8V DC, min 30V DC, max	0.2 Nm (1.48 lb-in.)	4 yellow	T4
2080-IQ4OB4					8 yellow	
2080-IQ4OV4						
2080-OB4, 2080-OV4	—	—			4 yellow	

Specifications (2080-IQ4, 2080-IQ4OB4, 2080-IQ4OV4, 2080-OB4, 2080-OV4)

Catalog	Terminal base screw torque	Isolation voltage	Wire size
2080-IQ4	0.22...0.25 Nm (1.95...2.21 lb-in.) using a 2.5 mm (0.10 in.) flat-blade screwdriver	50V (continuous), Basic Insulation Type, Inputs to Backplane Type tested for 60 s @ 720V DC, Inputs to Backplane	0.2... 2.5 mm ² (24...12 AWG) solid or stranded copper wire rated @ 90 °C (194 °F), or greater, insulation max
2080-IQ4OB4		50V (continuous), Basic Insulation Type, Inputs to Outputs, I/Os to Backplane Type tested for 60 s @ 720V DC, I/Os to Backplane	
2080-IQ4OV4			
2080-OB4			
2080-OV4			

Specifications (2080-IQ4, 2080-IQ4OB4, 2080-IQ4OV4, 2080-OB4, 2080-OV4)

Catalog	Operating temperature	Non-operating temperature	Surrounding air, max	Relative humidity	Vibration	Shock, operating	Shock, non-operating
2080-IQ4	-20...65 °C (-4...149 °F)	-40...85 °C (-40...185 °F)	65 °C (149 °F)	5...95% noncondensing	2 g @ 10...500 Hz	25 g	25 g
2080-IQ4OB4							
2080-IQ4OV4							
2080-OB4							
2080-OV4							

Specifications (2080-OW4I)

Catalog	Input/Output	Inrush current	Backplane power	Output current, resistive	Output current, inductive	Output power, resistive, max
2080-OW4I	4-channel relay output	<120 mA @ 3.3V <120 mA @ 24V	3.3 VDC, 38 mA	2 A @ 5...30V DC 0.5 A @ 48V DC 0.22 A @ 125V DC 2 A @ 125V AC 2 A @ 240V AC	1.0 A steady state @ 5...28V DC 0.93 A steady state @ 30V DC 0.5 A steady state @ 48V DC 0.22 A steady state @ 125V DC 2.0 A steady state, 15 A make @ 125V AC, PF – cos θ = 0.4 2.0 A steady state, 7.5 A make @ 240V AC, PF – cos θ = 0.4	250 VA for 125V AC resistive loads 480 VA for 240V AC resistive loads 60 VA for 30V DC resistive loads 24 VA for 48V DC resistive loads 27.5 VA for 125V DC resistive loads

Specifications (2080-OW4I)

Catalog	Output power, inductive break, max	Pilot duty rating	Minimum load, per point	Initial contact resistance of relay, max	Output delay time, max
2080-OW4I	180 VA for 125V AC inductive loads 180 VA for 240V AC inductive loads 28 VA for 28.8V DC inductive loads 28 VA for 48V DC inductive loads 28 VA for 125V DC inductive loads	C300, R150	10 mA	30 m Ω	10 ms ON or OFF

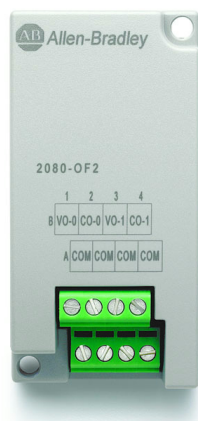
Specifications (2080-OW4I)

Catalog	Relay contact, (0.35 power factor)						
	Volts, max	Amperes		Amperes Continuous	Volt-Amperes		
		Make	Break		Make	Break	
2080-OW4I	120V AC	15 A	1.5 A	2.0 A	1800 VA	180 VA	
	240V AC	7.5 A	0.75 A				
	24V DC	1.0 A		1.0 A	28 VA		
	125V DC	0.22 A					

Specifications (2080-OW4I)

Catalog	Operating temperature	Non-operating temperature	Surrounding air, max	Relative humidity	Vibration	Shock, operating	Shock, non-operating
2080-OW4I	-20...65 °C (-4...149 °F)	-40...85 °C (-40...185 °F)	65 °C (149 °F)	5...95% noncondensing	2 g @ 10...500 Hz	10 g	DIN rail mounting: 25 g Panel mounting: 35 g

Analog Input and Output Plug-ins



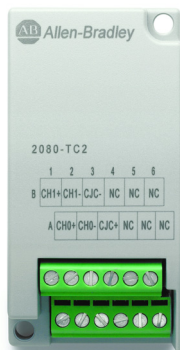
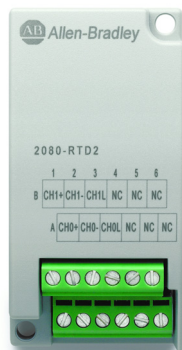
Specifications (2080-IF2, 2080-IF4, 2080-OF2)

Catalog	Number of inputs/outputs	Voltage range	Current range	Power consumption	Input impedance	Voltage resistive load
2080-IF2	2 inputs, unipolar non-isolated	0...10V	0...20 mA	<60 mA @ 3.3V	>100 k Ω for voltage mode 250 Ω for current mode	
2080-IF4	4 inputs, unipolar non-isolated					
2080-OF2	2 outputs, unipolar non-isolated			<60 mA @ 24V	—	1 k Ω min

Specifications (2080-IF2, 2080-IF4, 2080-OF2)

Catalog	Current resistive load	Mounting torque	Terminal screw torque	Wire size	Operating temp.	Non-operating temp.	Surrounding air, max	North American temp code
2080-IF2	—	0.2 Nm (1.48 lb-in.)	0.22...0.25 Nm (1.95...2.21 lb-in.) using a 2.5 mm (0.10 in.) flat-blade screwdriver	Solid: 0.14 mm ² (26 AWG), min 1.5 mm ² (16 AWG), max Stranded: 0.14 mm ² (26 AWG), min 1.0 mm ² (18 AWG), max rated @ 90 °C (194 °F) insulation max	-20...65 °C (-4...149 °F)	-40...85 °C (-40...185 °F)	65 °C (149 °F)	T4
2080-IF4								
2080-OF2	500 Ω							

Thermocouple and RTD (2080-TC2, 2080-RTD2)



Specifications (2080-RTD2, 2080-TC2)

Catalog	Type	Common mode rejection ratio	Normal mode rejection ratio
2080-RTD2	2-channel non-isolated RTD	100 dB @ 50/60Hz	70 dB @ 50/60 Hz
2080-TC2	2-channel non-isolated Thermocouple		

Specifications (2080-RTD2, 2080-TC2)

Catalog	Type	Common mode rejection ratio	Normal mode rejection ratio	RTD types supported	Thermocouple types supported	Terminal screw torque
2080-RTD2	2-channel non-isolated RTD	100 dB @ 50/60Hz	70 dB @ 50/60 Hz	100 Ω Platinum 385, 200 Ω Platinum 385, 500 Ω Platinum 385, 1000 Platinum 385, 100 Ω Platinum 392, 200 Ω Platinum 392, 500 Ω Platinum 392, 1000 Ω Platinum 392, 10 Ω Copper 427, 120 Ω Nickel 672, 604 Ω Nickel-Iron 518	—	0.22...0.25 Nm (1.95...2.21 lb-in.) using a 2.5 mm (0.10 in.) flat-blade screwdriver
2080-TC2	2-channel non-isolated Thermocouple			—	J, K, N, T, E, R, S, B	

Specifications (2080-RTD2, 2080-TC2)

Catalog	Wire size	Operating temperature	Non-operating temperature	Surrounding air, max	North American temp code
2080-RTD2	Solid: 0.14 mm ² (26 AWG), min 1.5 mm ² (16 AWG), max Stranded: 0.14 mm ² (26 AWG), min 1.0 mm ² (18 AWG), max rated @ 90 °C (194 °F) insulation max	-20...65 °C (-4...149 °F)	-40...85 °C (-40...185 °F)	65 °C (149 °F)	T4
2080-TC2					

*Trimpot Analog Input (2080-TRIMPOT6)***Specifications (2080-TRIMPOT6)**

Number of inputs	Mounting torque	Operating temperature	Non-operating temperature	Surrounding air, max	North American temp code
6-channel, Trimpot	0.2 Nm (1.48 lb-in.)	-20...65 °C (-4...149 °F)	-40...85 °C (-40...185 °F)	65 °C (149 °F)	T4



Memory Backup and High Accuracy RTC Plug-In (2080-MEMBAK-RTC)

Specifications (2080-MEMBAK-RTC)

Mounting torque	Terminal screw torque	Operating temperature	Non-operating temperature	Surrounding air, max	North American temp code
0.2 Nm (1.48 lb-in)	0.22...0.25 Nm (1.95...2.21 lb-in.) using a 2.5 mm (0.10 in.) flat-blade screwdriver	-20...65 °C (-4...149 °F)	-40...85 °C (-40...185 °F)	65 °C (149 °F)	T4



RS232/485 Serial Port Plug-in (2080-SERIALISOL)

Specifications (2080-SERIALISOL)

Mounting torque	Terminal screw torque	Wire size	Isolation voltage
0.2 Nm (1.48 lb-in)	0.22...0.25 Nm (1.95...2.21 lb-in) using a 2.5 mm (0.10 in.) flat-blade screwdriver	Solid: 0.14...1.5 mm ² (26...16 AWG) Stranded: 0.14...1.0 mm ² (26...18 AWG) rated @ 90 °C (194 °F) insulation max	500V AC

Operating temperature	Non-operating temperature	Surrounding air, max	North American temp code
-20...65 °C (-4...149 °F)	-40...85 °C (-40...185 °F)	65 °C (149 °F)	T4

Micro800 Accessories

Micro800 LCD (2080-LCD)

Temperature, operating	Temperature, surrounding air, max	Temperature, nonoperating	North American temp code
-20...55 °C (-4...131 °F)	55 °C (131 °F)	-40...85 °C (-40...185 °F)	T5

Micro810 USB Adapter (2080-USBADAPTER)

USB cable connector type	Temperature, operating	Temperature, surrounding air, max	Temperature, non-operating	North American temp code
USB Type A-B Male-Male	-20...55 °C (-4...131 °F)	55 °C (131 °F)	-40...85 °C (-40...185 °F)	T5

External Power Supply (2080-PS120-240VAC)

Attribute	Value
Dimensions, HxWxD	90 x 45 x 80 mm (3.55 x 1.78 x 3.15 in)
Shipping weight	0.34 kg (0.75 lb)
Supply voltage range ⁽¹⁾	100V...120V AC, 1A 200...240V AC, 0.5A
Supply frequency	47...63 Hz
Supply power	24V DC, 1.6 A
Inrush current, max	24A @ 132V for 10 ms 40A @ 263V for 10 ms
Power consumption (Output power)	38.4W @ 100V AC, 38.4W @ 240V AC
Power dissipation (Input power)	45.1W @ 100V AC, 44.0W @ 240V AC
Isolation voltage	250V (continuous), Primary to Secondary: Reinforced Insulation Type Type tested for 60s @ 2300V AC primary to secondary and 1480V AC primary to earth ground.
Output ratings	24V DC, 1.6A, 38.4W max.

(1) Any fluctuation in voltage source must be within 85V...264V. Do not connect the adapter to a power source that has fluctuations outside of this range.

For More Information

Visit the Micro800 website at

<http://ab.rockwellautomation.com/Programmable-Controllers/Micro800> to learn more about Micro800 products and download Connected Component Workbench software and Micro800 firmware updates.

If you would like a manual, you can:

- download a free electronic version from the Internet:
<http://rockwellautomation.com/literature>.
- purchase a printed manual by contacting your local Allen-Bradley distributor or Rockwell Automation representative.

You can also visit the following websites for additional technical information:

- **Sample Code Library**
http://samplecode.rockwellautomation.com/idc/groups/public/documents/webassets/sc_home_page.hcst
- **Technical Forums**
<http://www.rockwellautomation.com/forums/>

Additional Resources

These documents contain additional information concerning related Rockwell Automation products.

Resource	Description
Micro810 Programmable Controllers User Manual, publication 2080-UM001	A more detailed description of how to install and use your Micro810 programmable controller.
Micro830 Programmable Controllers User Manual, publication 2080-UM002	A more detailed description of how to install and use your Micro830 programmable controller.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, http://www.rockwellautomation.com/products/certification/	Provides declarations of conformity, certificates, and other certification details.

Notes:

Notes:

Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products.

At <http://www.rockwellautomation.com/support/>, you can find technical manuals, a knowledge base of FAQs, technical and application notes, sample code and links to software service packs, and a MySupport feature that you can customize to make the best use of these tools.

For an additional level of technical phone support for installation, configuration, and troubleshooting, we offer TechConnect support programs. For more information, contact your local distributor or Rockwell Automation representative, or visit <http://www.rockwellautomation.com/support/>.

Installation Assistance

If you experience a problem within the first 24 hours of installation, review the information that is contained in this manual. You can contact Customer Support for initial help in getting your product up and running.

United States or Canada	1.440.646.3434
Outside United States or Canada	Use the Worldwide Locator at http://www.rockwellautomation.com/support/americas/phone_en.html , or contact your local Rockwell Automation representative.

New Product Satisfaction Return

Rockwell Automation tests all of its products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

United States	Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for the return procedure.

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete this form, publication [RA-DU002](#), available at <http://www.rockwellautomation.com/literature/>.

Rockwell Otomasyon Ticaret A.Ş., Kar Plaza İş Merkezi E Blok Kat:6 34752 İçerenköy, İstanbul, Tel: +90 (216) 5698400

www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846